

ABSTRACT OF THE DISCLOSURE

In a laser irradiation apparatus having low running costs as compared with a conventional apparatus and a laser beam irradiation method using the same, a crystalline semiconductor film having a crystal grain of a grain size equivalent to or
5 larger than a conventional one is formed, and a TFT is manufactured by using the crystalline semiconductor film, so that the TFT enabling a high speed operation is realized. In a case where a laser beam of a short output time from a solid laser as a light source is irradiated to a semiconductor film, another laser beam is delayed from one laser beam, and the laser beams are synthesized to be irradiated to the
10 semiconductor film, so that a cooling speed of the semiconductor film is made gentle. and it becomes possible to form the crystalline semiconductor film having the crystal grain of the grain size equivalent to or larger than that in a case where a laser beam having a long output time is irradiated to the semiconductor film. By manufacturing a TFT using such a crystalline semiconductor film, the TFT, enabling the high speed
15 operation can be realized.